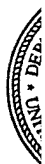# Computer Graphics Metafile Transfer

Using:

Carberry Technology's Data

MIL-D-28003 (CGM)

Quick Short Test Report

26 October 1992

19960822 043

Prepared for

Electronic Systems Center

Computer Graphics Metafile Transfer

Using:
Carberry Technology's Data

MIL-D-28003 (CGM)

Quick Short Test Report

26 October 1992

Prepared By
Air Force CALS Test Bed
Wright-Patterson AFB, OH 45433

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Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff to broaden the testing base. They including representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was
to analyze Carberry Technology's interpretation and use of
the CALS Standards in transferring Computer Graphics
Metafile data. Carberry Technology used its CALS Technical
Data Interchange System to produce data, in accordance with
the standards, and delivered it to the AFCTN technical staff
on a 3.5" disk. The purpose of the test was to evaluate the
CGM files, not the CALS headers.

2. Test Parameters

Test Plan: AFCTB 92-073

Date of
Evaluation: 26 October 1992

Evaluator: George Elwood
                                    Air Force CALS Test Bed
                                    Det 2 HQ ESC/ENCP
                                    4027 Colonel Glenn Hwy
                                    Suite 200
                                    Dayton, OH 45431-1672

Data
Originator: Carberry Technology
                                    Byran DiAntonio
                                    600 Suffolk Street
                                    Lowell, MA 01854

Data
Description: Computer Graphics Metafile (CGM)
                                            8 CGM files

Data
Source System:
                    CGM
                            HARDWARE
                                    Unknown
                            SOFTWARE
                                    Unknown

Evaluation Tools Used:

                    MIL-D-28003 (CGM)
                            SUN SparcStation 2
                                    ArborText *cgm2draw*
                                    Island Graphics *IslandDraw 3.0*
                            Sun 3/60
                                    Advanced Technology Center
                                            (ATC) *CGM-View R2.0*

Cheetah Gold 486
    ATC *MetaVIEW R 1.12*
    ATC *MetaCHECK R 2.05*
    Software Publishing Corporation
            (SPC) *Harvard Graphics v3.0*
    Corel *Ventura Publisher*

Standards
Tested:

MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The files for this test were delivered to the Air Force CALS
Test Bed (AFCTB) using an electronic transfer.

3.2 Transmission Envelope

The files were not named per MIL-STD-1840A requirements.

3.2.1 Tape Formats

The files did not have the CALS headers as per the CALS
MIL-STD-1840A requirements. However, the propose of the
test was to evaluate the files and not the CALS headers.

3.2.2 Declaration and Header Fields

There was no Document Declaration File or CALS headers in-
cluded with the electronic transfer.

4. IGES Analysis

No Initital Graphics Exchange Specification (IGES) files
were included for this test.

5. SGML Analysis

No Standard Generalized Markup Language (SGML) files were
included for this test.

6. Raster Analysis

No Raster files were included for this test.

7. CGM Analysis

The electronic transfer contained eight CGM files. The files were not named per the CALS MIL-STD-1840A requirements. All files were evaluated using ATC's *MetaCheck* with CALS options. The files did not report any CALS or basic CGM violations. The error logs for ATC's *MetaCheck* and the AFCTN *validcgm* are included in the Appendix to this report. The other logs are the same.

The files were displayed using ATC's *CGMView*. No problems were noted.

The files were imported into SPC's *Harvard Graphics 3.0* without a reported problem. They displayed and printed correctly.

The files were imported directly into Corel's *Ventura Publisher*. No problems were reported during this process. When the files were displayed and printed, Shuttle, F15, and VGR all had notable lines. See the hard copies in the Appendix to this report.

The CGM files submitted to the AFCTB via electronic transfer meet the CALS MIL-D-28003 specification.

8. Conclusions and Recommendations

In summary the electronic transfer, from Carberry Technology, did not contain CALS MIL-STD-1840A files. They were not named correctly and did not have the required CALS headers or Document Declaration files. They were not evaluated for the CALS MIL-STD-1840A requirements.

The CGM files meet the CALS MIL-D-28003 specification.

The electronic transfer files, from Carberry Technology, meet the CALS Standards with the exception of the file naming and lack of Declaration file.

9. Appendix A - Detailed CGM Analysis

9.1 File 50states

9.1.1 Parser Log MetaCheck

```
MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/26/92     Time:  15:43:31

Metafile Examined     : \9273\50states.cgm

Pictures Examined     : All
Elements Examined     : All
Bytes     Examined     : All


======================= Trace Report =========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ============

No profile discrepancies detected.

================ Conformance Summary Report ================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/26/92     Time:  15:43:38

Name of CGM under test: \9273\50states.cgm
Encoding               : Binary

Pictures Examined     : All
Elements Examined     : All
Bytes     Examined     : All

BEGIN METAFILE string : "CGM File"
METAFILE DESCRIPTION   : "CGM File, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 442; string contains: "hpgltocgm"
```

Conformance Summary : This file conforms to the CGM specification.

This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

```
    1 Pictures Tested
  770 Elements Tested
40254 Octets Tested
```

```
===================================
|     No Errors Were Detected     |
===================================
```

================ End of Conformance Report ==================

9.1.2 validcgm Log

```
Analysis for file 50states.cgm using table table
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 5) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(2, 1) occurred 1 time
(2, 2) occurred 1 time
(2, 3) occurred 1 time
(2, 4) occurred 1 time
(2, 5) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
(3, 1) occurred 1 time
(3, 2) occurred 1 time
(4, 1) occurred 679 times
```

(5, 2) occurred 2 times
(5, 3) occurred 11 times
(5, 4) occurred 11 times
(5, 11) occurred 1 time
(5, 12) occurred 1 time
(5, 14) occurred 11 times
(5, 15) occurred 1 time
(5, 22) occurred 1 time
(5, 23) occurred 1 time
(5, 27) occurred 2 times
(5, 28) occurred 11 times
(5, 29) occurred 11 times
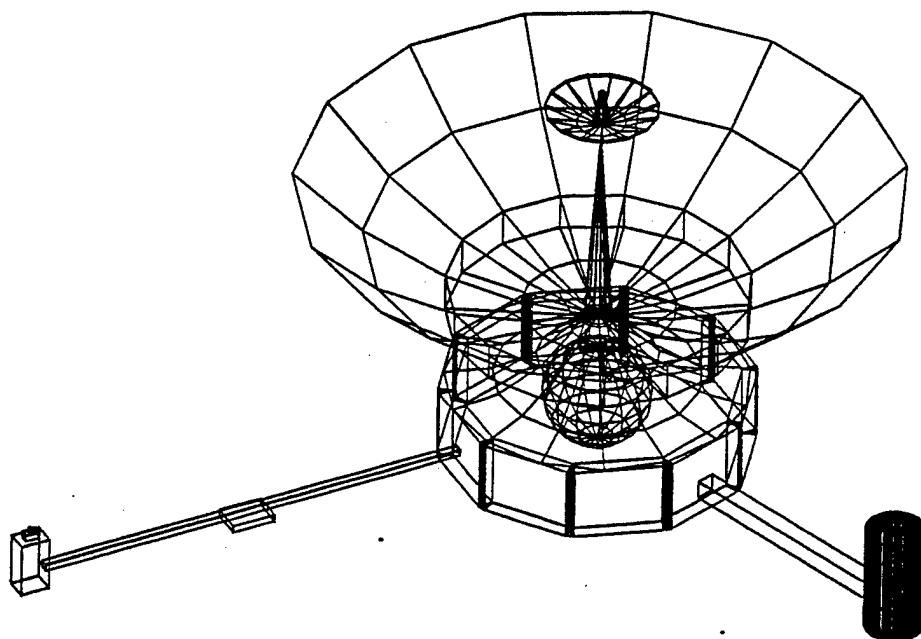(5, 30) occurred 1 time
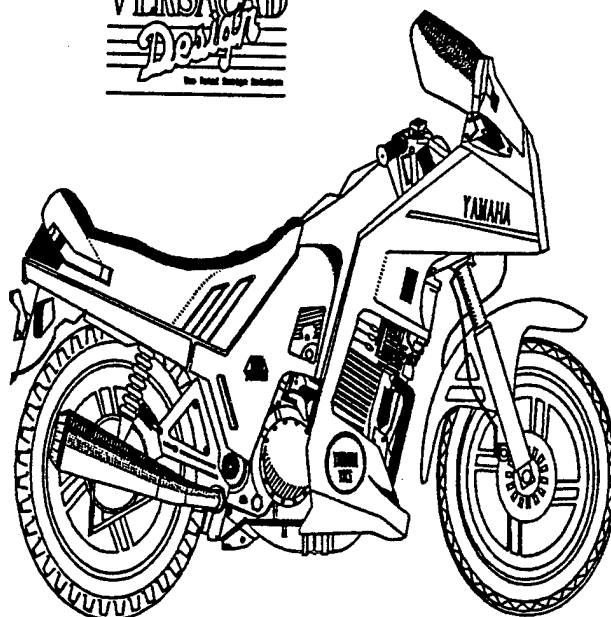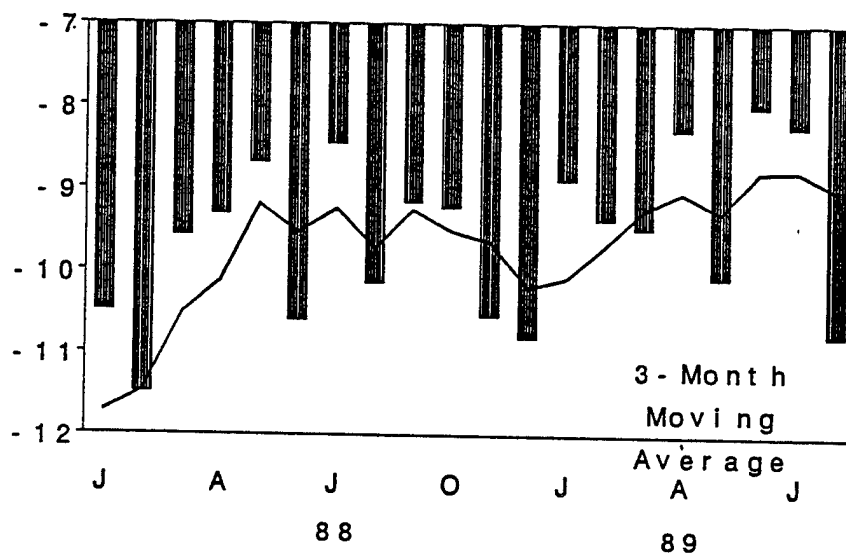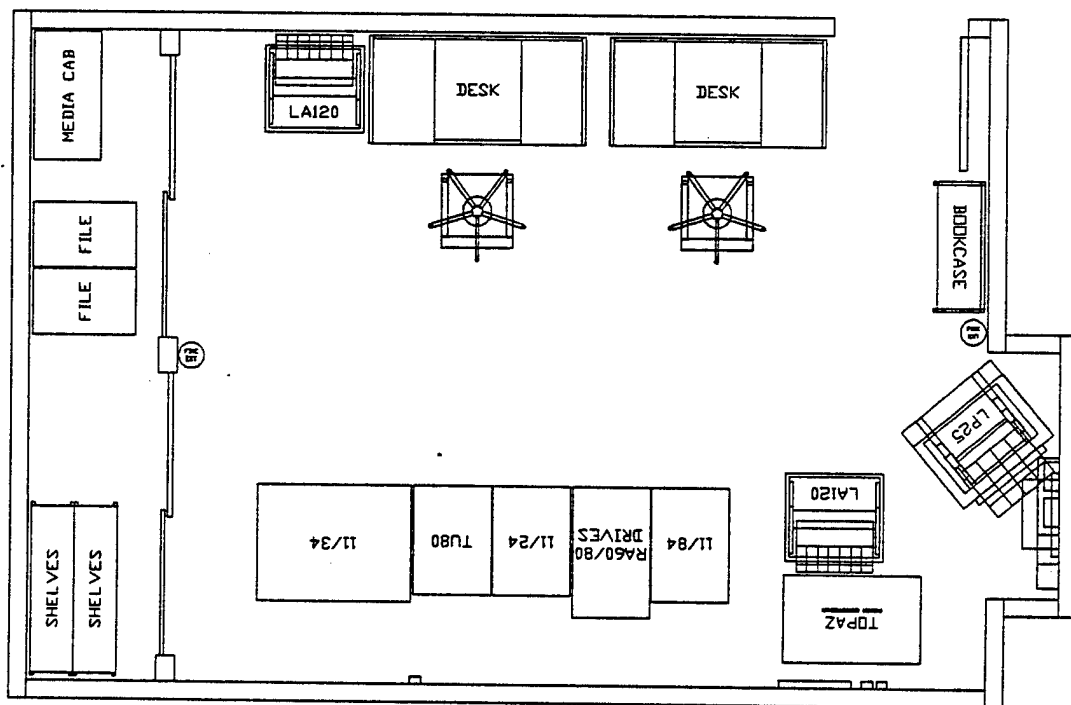(5, 34) occurred 1 time

9.1.3 Output Harvard Graphics

Unigraphics

F-15

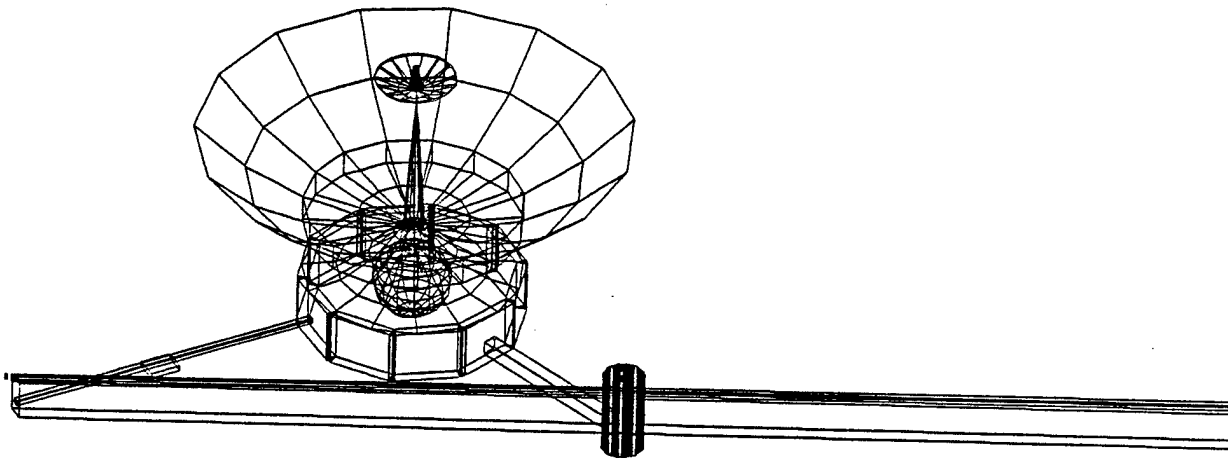## 9.1.4 Output Ventura Publisher

MERCHANDISE TRADE BALANCE

Digraphics

F-15
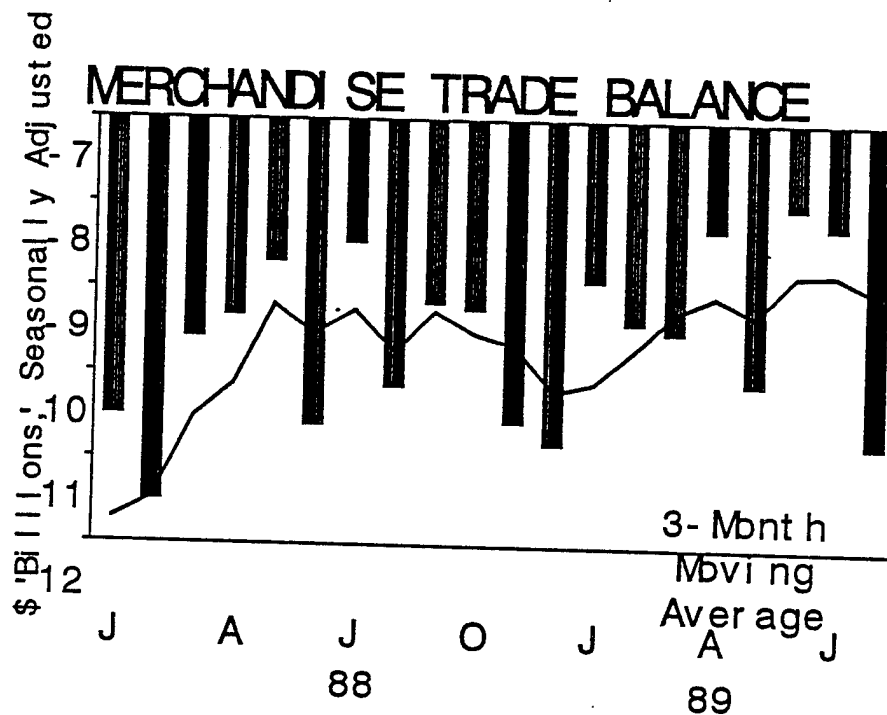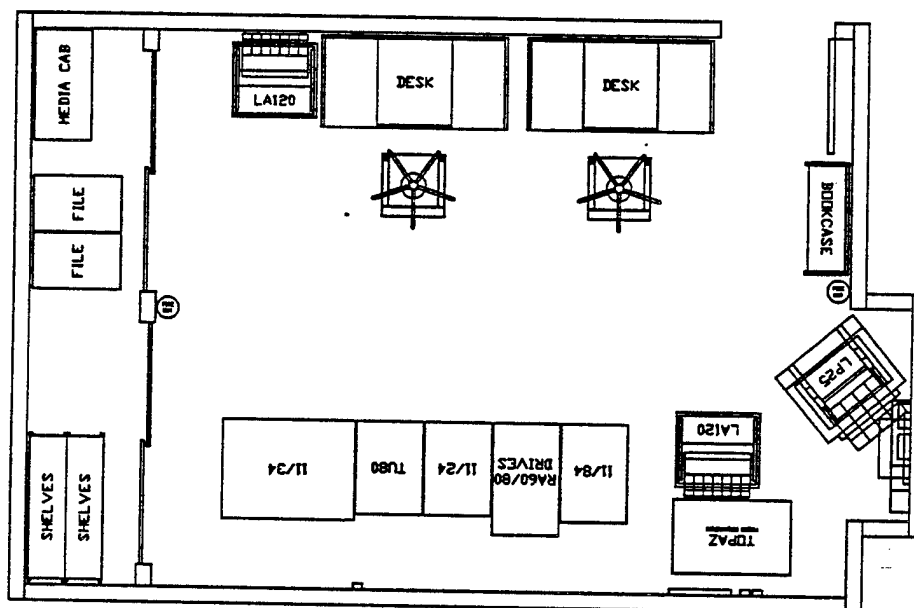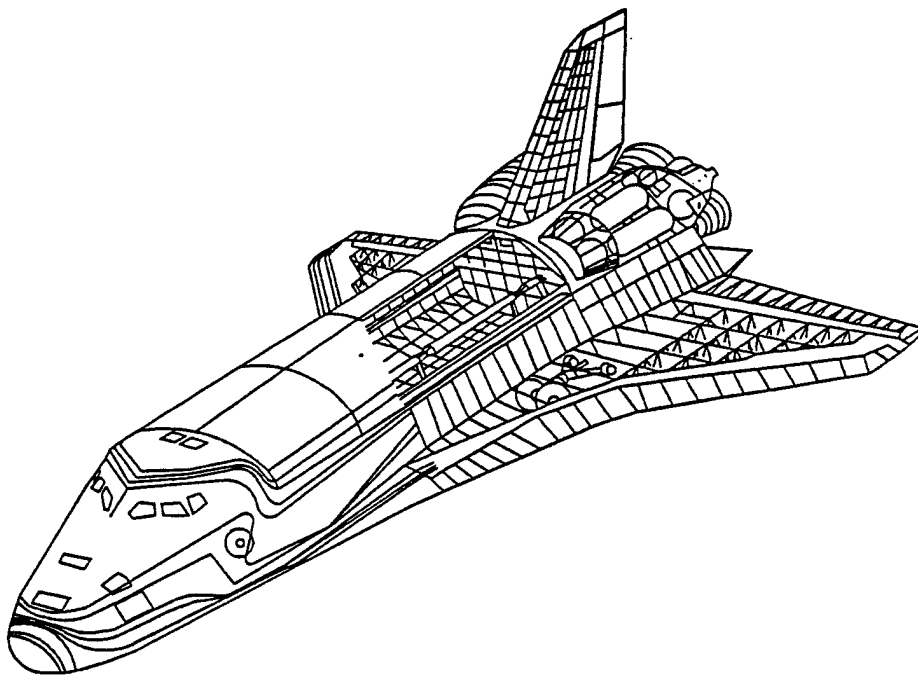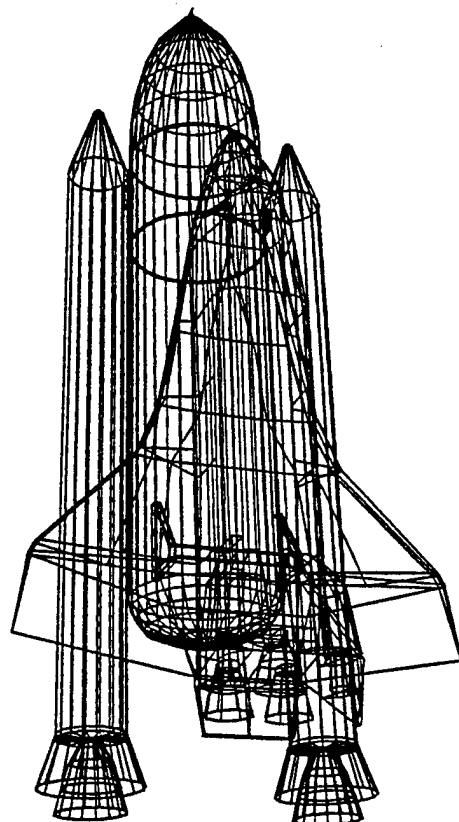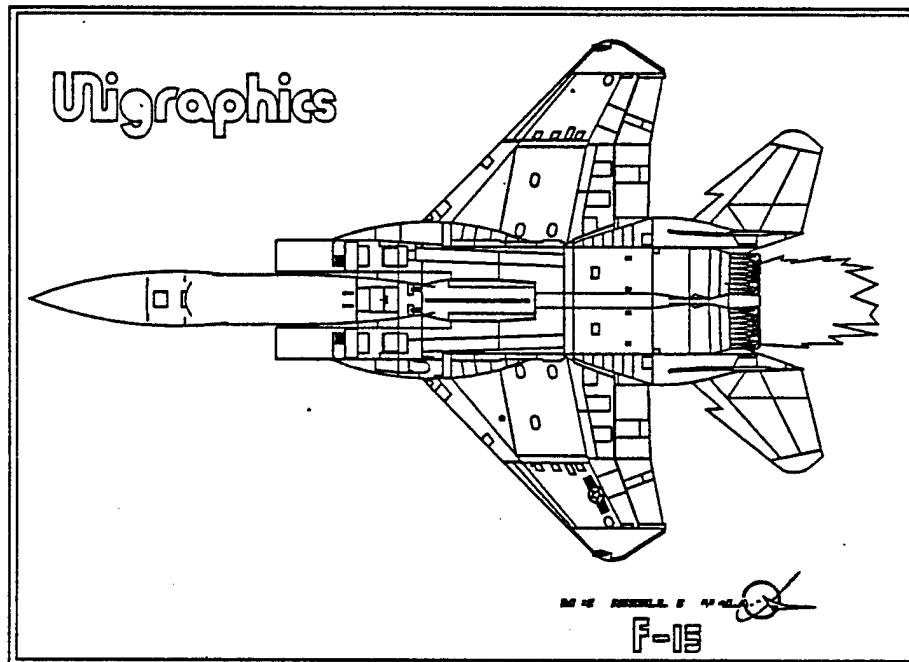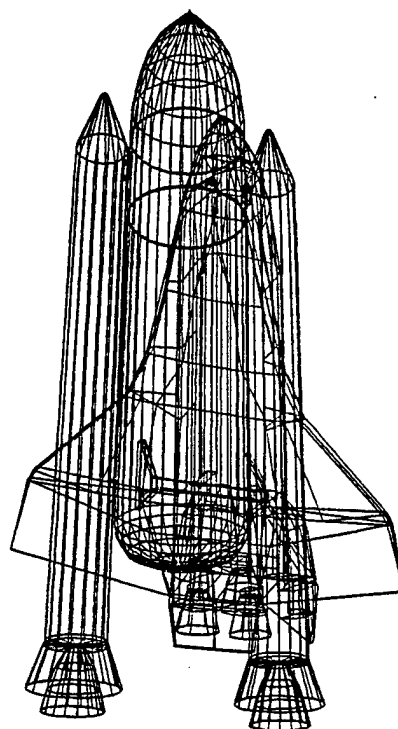
VERSACAD
Design
The Total Design Solution